

We Claim:

1                   1.    In a communications network, a system  
for establishing and maintaining communications  
between a customer and a business having a call center  
5 over a plurality of communications media, said system  
including:

                  (a)   a first means for establishing a  
IP communications link between a customer  
10 and a company web server;

                  (b)   a second means for determining  
resource availability at said call center  
for said customer, and identifying an agent  
15 at said call center available to  
communicate with said customer;

                  (c)   a third means for establishing a  
second communications link between call  
20 center and said customer;

                  (d)   a contact server for managing and  
synchronizing simultaneous IP  
25 communications between:

                  (i)   said web server and said call  
center, and;

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1 (ii) said web server and said  
customer;

5 whereby said agent and said customer  
may each view said IP communications links  
while communicating with each other over  
said second communications link.

2. In a communications network, a system  
for establishing and maintaining communications  
10 between a customer and a business having a call center  
as claimed in claim 1, wherein said third means  
includes a telephony automatic call director and a  
telephony server

15 3. In a communications network, a system  
for establishing and maintaining communications  
between a customer and a business having a call center  
as claimed in claim 2, wherein said contact server  
20 communicates with said automatic call director through  
said telephony server.

4. In a communications network, a system  
25 for establishing and maintaining communications  
between a customer and a business having a call center  
as claimed in claim 1, wherein said IP communications

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includes a link which enables a customer to request a  
1 call back if an agent is not available.

5. In a communications network, a system  
for establishing and maintaining communications  
5 between a customer and a business having a call center  
as claimed in claim 1, wherein said third means  
enables communication with said customer with a  
communications protocol selected from the group of  
10 broadband telephony, TCP/IP, SMTP, chat, internet  
telephony or internet video.

6. In a communications network, a system  
for establishing and maintaining communications  
15 between a customer and a business having a call center  
as claimed in claim 1, wherein said system includes a  
data base server to authenticate a customers  
20 entitlements at said call center.

7. In a communications network, a system  
for establishing and maintaining communications  
between a customer and a business having a call center  
25 as claimed in claim 4, wherein said second means  
includes a data base server to match the  
qualifications of a call center agent to a customers

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call back request.

1                   8.    In a communications network, a system  
for establishing and maintaining communications  
between a customer and a business having a call center  
5 as claimed in claim 1 wherein said system further  
includes a data base server for providing access to  
data relating to services provided by the company to  
the customer.

10                   9.    In a communications network, a system  
for establishing and maintaining communications  
between a customer and a business having a call center  
as claimed in claim 1, wherein said system further  
15 includes first and second linked web servers separated  
by a security means, with said first web server  
communicating with said agent, and said second web  
20 server communicating with said customer, said second  
web server providing at least one Java applet to said  
customer over said IP communications link.

25                   10.   In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center over a plurality  
of communications media, said method comprising the

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steps of:

1                   (a) establishing a html  
communications link between a customer and  
a company web server which enables the  
5 customer to request a call back;

                 (b) determining resource availability  
at said call center for said customer, and  
identifying an agent at said call center  
10 available to communicate with said  
customer;

                 (c) establishing a second  
communications link between call center and  
15 said customer;

                 (d) managing and synchronizing  
simultaneous html communications between:

20                   (i) said web server and said call  
center, and;

                 (ii) said web server and said  
customer;

25                   whereby said agent may communicate with  
said customer over said second  
communications link while each views said

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simultaneous html communications links.

1           11. In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center as claimed in  
5 claim 10, wherein said step of establishing said  
second communications link includes establishing a  
telephony link with said customer.

10           12. In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center as claimed in  
claim 10, which further includes the step of enabling  
15 the customer to request a call back from an agent if  
an agent is not available.

20           13. In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center as claimed in  
claim 10, wherein said step of establishing a second  
communication link enables communication with said  
customer with a communications protocol selected from  
25 the group of broadband telephony, TCP/IP, SMTP, chat,  
internet telephony or internet video.

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14. In a communications network, a method  
1 for establishing and maintaining communications  
between a customer and a call center as claimed in  
claim 10, which further includes the step of  
5 authenticating a customers entitlements at said call  
center..

15. In a communications network, a method  
for establishing and maintaining communications  
10 between a customer and a call center as claimed in  
claim 10, wherein said method further includes the  
step of matching the qualifications of a call center  
agent to a customers call back request.  
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16. In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center as claimed in  
20 claim 10, which further includes the step of providing  
customer and agent access to data relating to services  
provided by the company to the customer.

17. In a communications network, a method  
25 for establishing and maintaining communications  
between a customer and a call center as claimed in  
claim 16, which further includes the step of providing

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1 access to data relating to trouble tickets on services  
provided by the company to the customer.

5 18. In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center as claimed in  
claim 10, which further includes the step of  
synchronizing first and second web servers with fixed  
10 IP addressed to provide security for company data,  
with said first web server communicating with said  
agent, and said second web server communicating with  
said customer.

15 19. In a communications network, a method  
for establishing and maintaining communications  
between a customer and a call center as claimed in  
claim 18, which further includes the step of  
communicating at least one Java applet from said  
20 second web server to said customer over said IP  
communications link.

25 20. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis, said communication  
enabled over a plurality of communications media, said

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system including:

1           (a) a first means for establishing a  
html communications link between a customer  
and a company web server;

5           (b) an http communications means for  
enabling a customer to request a call back  
from said call center;

10           (c) a second means for determining  
resource availability at said call center  
for said customer, and identifying an agent  
at said call center available to  
communicate with said customer;

15           (d) a third means for establishing a  
call back communications link between said  
call center and said customer;

20           whereby a call center agent may  
establish a call back communications link  
with said customer in response to the  
customer's http request.

25           21. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim

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20, wherein said third means includes a telephony  
1 automatic call director and a telephony server to  
facilitate communication from said call center to said  
customer.

5 22. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
20, wherein said third means enables communication  
10 with said customer with a communications protocol  
selected from the group of broadband telephony,  
TCP/IP, SMTP, chat, internet telephony or internet  
video.

15 23. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
20 20, wherein said second means includes a contact  
server to match the qualifications of a call center  
agent to a customers call back request.

24. In a communications network, a system  
25 for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
23, wherein said contact center reserves a qualified

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call center agent for call back services.

1                   25. In a communications network, a method  
for continuing communication between a customer and a  
company call center on a call back basis, said  
5 communication enabled over a plurality of  
communications media, said method including the steps  
of:

10                   (a) establishing a IP communications  
link between a customer and a company web  
server;

15                   (b) downloading an http  
communications means to said customer to  
enable a customer to request a call back  
from the call center;

20                   (c) determining resource availability  
at the call center for said customer, and  
identifying an agent at said call center  
available to communicate with said  
customer;

25                   (d) establishing a call back  
communications link between said call  
center and said customer;

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1                   whereby a call center agent may  
establish a call back communications link  
with said customer in response to the  
customer's http call back request.

5                   26. In a communications network, a method  
for continuing communication between a customer and a  
company call center on a call back basis as claimed in  
10 claim 25, which further includes the step of matching  
the qualifications of a call center agent to a  
customers call back request.

15                   27. In a communications network, a method  
for continuing communication between a customer and a  
company call center on a call back basis as claimed in  
claim 25, which further includes the step of reserving  
20 a qualified call center agent for call back to the  
customer.

25                   28. In a communications network, a method  
for continuing communication between a customer and a  
company call center on a call back basis as claimed in  
claim 25, wherein said agent establishes said call

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1 back communications link via telephony though an  
1 telephony automatic call director and a telephony  
server.

5 29. In a communications network, a method  
for continuing communication between a customer and a  
company call center on a call back basis as claimed in  
claim 25, wherein agent establishes said call back  
10 communications link with a communications protocol  
selected from the group of broadband telephony,  
TCP/IP, SMTP, chat, internet telephony or internet  
video.

15 30. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis, said communication  
enabled over a plurality of communications media, said  
20 system including:

(a) a first means for establishing a  
html communications link between a customer  
and a company web server and enabling a  
25 call back request by the customer;

(b) a second means for determining  
resource availability at said call center

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1           for said customer and said call back  
request, and identifying an agent at said  
call center available to communicate with  
said customer;

5           (c) a third means for establishing a  
call back communications link between said  
call center and said customer;

10           (d) a contact server for managing and  
synchronizing simultaneous html  
communications between:

15           (i) said web server and said call  
center, and;

            (ii) said web server and said  
customer:

            whereby said agent establish a call  
20           back communications link with said customer  
while said contact server synchronizes said  
simultaneous html communications links  
between said web server and customer, and  
25           said web server and said agent.

31. In a communications network, a system  
for continuing communication between a customer and a

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1 call center on a call back basis as claimed in claim  
30 in which said customer call back request is  
triggered by running a Java applet embedded in the  
html communication to the customer.

5 32. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
31 in which an agent is reserved for said customer  
10 call back request when an agent not available at the  
time the request is entered by the customer.

15 33. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
30 in which said third means includes a telephony  
automatic call director and a telephony server managed  
20 by a contact server.

34. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
25 30 wherein said third means enables communication with  
said customer with a communications protocol selected  
from the group of broadband telephony, TCP/IP, SMTP,

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chat, internet telephony or internet video.

1           35. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
5 30 wherein said second means includes a data base  
server to match the qualifications of a call center  
agent to a customers call back request.

10           36. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
30 wherein said system further includes a data base  
15 server for providing access to data relating to  
services provided by the company to the customer.

          37. In a communications network, a system  
for continuing communication between a customer and a  
20 call center on a call back basis as claimed in claim  
36 wherein said data base server provides access to  
the current status of trouble tickets filed by the  
customer with the company.

25           38. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim

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30 wherein said system further includes first and  
1 second linked web servers separated by a security  
means, with said first web server communicating with  
said agent, and said second web server communicating  
5 with said customer.

39. In a communications network, a system  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
10 38 said second web server downloads at least one Java  
applet to said customer at the time said html  
communications link is established.

40. In a communications network, a method  
15... for continuing communication between a customer and a  
call center on a call back basis, said call back  
communications enabled over a plurality of  
20 communications media, said method comprising the steps  
of:

(a) establishing a html  
communications link between a customer and  
25 a company web server which enables the  
customer to request a call back;

(b) determining resource availability

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1 at said call center for said customer, and  
identifying an agent at said call center  
available for call back communication with  
said customer;

5 (c) establishing a second  
communications link between call center and  
said customer;

10 (d) managing and synchronizing  
simultaneous html communications between:

(i) said web server and said call  
center, and;

15 (ii) said web server and said  
customer;

whereby said agent may communicate with  
said customer over said second  
20 communications link while each views said  
simultaneous html communications links.

41. In a communications network, a method  
for continuing communication between a customer and a  
25 call center on a call back basis as claimed in claim  
40, said method comprising the step of triggering said  
customer call back request by running a Java applet

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1 embedded in an html communication received by the  
customer.

5 42. In a communications network, a method  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
40, said method comprising the steps of reserving a  
call back agent for said customer call back request  
when an agent is not available at the time the request  
10 is entered by the customer.

15 43. In a communications network, a method  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
40, said method comprising the steps of establishing a  
telephony communications link through a telephony  
server managed by a contact server.

20 44. In a communications network, a method  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
40 wherein said agent establishes communication with  
25 said customer with a communications protocol selected  
from the group of broadband telephony, TCP/IP, SMTP,  
chat, internet telephony or internet video.

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45. In a communications network, a method  
1 for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
40 which further includes the step of matching the  
5 qualifications of a call center agent to a customers  
call back request.

46. In a communications network, a method  
for continuing communication between a customer and a  
10 call center on a call back basis as claimed in claim  
40 which further includes the step of providing access  
to data relating to services provided by the company  
to the customer.

15. 47. In a communications network, a method  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
20 40, said method comprising the steps of providing  
access to the current status of trouble tickets filed  
by the customer with the company.

48. In a communications network, a method  
25 for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
40, said method comprising the steps of linking first

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and second web servers through a security protocol,  
1 with said first web server communicating with said  
agent, and said second web server communicating with  
said customer.

5 49. In a communications network, a method  
for continuing communication between a customer and a  
call center on a call back basis as claimed in claim  
40, said method comprising the steps of downloading at  
10 least one Java applet to said customer at the time  
said html communications link is established.

15 50. A contact server for managing  
communications between a customer and a company,  
wherein said customer has http access to a company  
http web server, and said company has a customer call  
center having a telecommunications telephony server,  
20 said system including:

(a) a first means for establishing a  
http communications link between the  
customer and the company http web server,  
25 which link requests an additional  
communication from said company call  
center;

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1 (b) second means for determining  
resource availability at said call center  
for said customer, and identifying an agent  
at said call center available to  
5 communicate with said customer;

(c) a data link between said contact  
server and said telecommunications  
telephony server to enable said agent in  
10 said call center to establish a telephony  
communications link with said customer;

(d) said contact server managing and  
synchronizing simultaneous html  
15 communications between:

(i) said web server and said call  
center, and;

20 (ii) said web server and said  
customer;

whereby said agent and said customer may  
each view said html communications links while  
25 simultaneously communicating with each other over said  
telephony communications link.

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51. A contact server for managing  
1 communications between a customer and a company as  
claimed in claim 50, said server receiving a call back  
request from said html communications link and  
5 notifies said telecommunications telephony server if  
an agent is available.

52. A contact server for managing  
communications between a customer and a company as  
10 claimed in claim 50, said server receiving a call back  
request from said html communications link and  
reserves a an agent for future communications if an  
agent is available.  
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53. A contact server for managing  
communications between a customer and a company as  
claimed in claim 51, wherein said contact server  
20 matches a set of qualifications with a customer's  
requirements prior to notifying said  
telecommunications telephony server.

54. A contact server for managing  
25 communications between a customer and a company as  
claimed in claim 51, wherein said contact server  
matches a set of customer entitlements with a set of

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entitlements maintained for a customer's IP address  
1 prior to notifying telecommunications telephony  
server.

5 55. A contact server for managing  
communications between a customer and a company as  
claimed in claim 51, wherein said contact server also  
synchronizes an additional IP link to a call center  
manager.

10 56. A contact server for managing  
communications between a customer and a company as  
claimed in claim 51, wherein said contact server may  
also synchronize an additional IP communications link  
15 with said customer with a communications protocol  
selected from the group of broadband telephony,  
TCP/IP, SMTP, chat, internet telephony or internet  
20 video.

57. A method of managing communications  
between a customer and a company, wherein said  
customer has http access to a company http web server,  
25 and said company has a customer call center having a  
telecommunications telephony server, said method  
comprising the steps of:

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1 (a) establishing a http  
communications link between the customer  
and the company http web server, which link  
receives a request from a customer for an  
5 additional communication from said company  
call center;

(b) determining resource availability  
at said call center for said customer, and  
10 identifying an agent at said call center  
available to communicate with said  
customer;

(c) initiating a data link to the  
15 telecommunications telephony server to  
enable said agent in said call center to  
establish a telephony communications link  
with said customer;  
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(d) managing and synchronizing  
simultaneous html communications between:

(i) said web server and said call  
25 center, and;

(ii) said web server and said  
customer;  
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1 while simultaneously managing the data  
link with the telecommunications telephony  
server;

5 whereby said agent and said customer  
may each view said html communications links while  
communicating with each other over said telephony  
communications link.

10 58. A method of managing communications  
between a customer and a company as claimed in claim  
57 which method further comprises the step of  
receiving a call back request from said html  
15 communications link and notifying said  
telecommunications telephony server if an agent is  
available.

20 59. A method of managing communications  
between a customer and a company as claimed in claim  
57 which method further comprises the step of  
receiving a call back request from said html  
communications link and reserving an agent for future  
25 communications if an agent is available.

30 60. A method of managing communications  
between a customer and a company as claimed in claim

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57 which method further comprises the step of matching  
1 a set of qualifications with a customer's requirements  
prior to notifying said telecommunications telephony  
server.

5 61. A method of managing communications  
between a customer and a company as claimed in claim  
57 which method further comprises the step of matching  
a set of customer entitlements with a set of  
10 entitlements maintained for a customer's IP address  
prior to notifying telecommunications telephony  
server.

15 62. A method of managing communications  
between a customer and a company as claimed in claim  
57 which method further comprises the step of  
synchronizing an additional IP link to a call center  
20 manager.

63. A method of managing communications  
between a customer and a company as claimed in claim  
25 57 which method further comprises the step of  
synchronizing an additional IP communications link  
with said customer with a communications protocol

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selected from the group of broadband telephony,  
1 TCP/IP, SMTP, chat, internet telephony or internet  
video.

64. An interactive method of synchronizing  
5 web page displays between a customer and company  
support personnel at a plurality of locations over a  
TCP/IP communications link, wherein said customer and  
said support personnel have push/pull http access to a  
10 company http web server said method comprising the  
steps of:

(a) establishing a http  
communications link between the customer  
15 having a known IP address and the company  
http web server, which link receives a  
request from a customer for an additional  
communication with company support  
20 personnel;

(b) relaying said known IP address to  
said company support personnel

25 (c) registering the company support  
personnel with a contact server using the  
customers IP address, and establishing a

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synchronizing data link between said web  
server and said contact server;

(d) replicating connections by IP  
address on said contact server to enable  
simultaneous displays of any requested html  
data page or URL at each location. and  
simultaneous execution of any local Java  
applets associated with said html data page  
or new URL.

65. An interactive method of synchronizing  
web page displays between a customer and company  
support personnel at a plurality of locations over a  
TCP/IP communications link as claimed in claim 64  
which further includes the step of replicating  
connections by IP address on said contact server to  
enable simultaneous execution of any local Java  
applets associated with said html data page.

66. An interactive method of synchronizing  
web page displays between a customer and company  
support personnel at a plurality of locations over a  
TCP/IP communications link as claimed in claim 64  
which further includes the step of replicating

connections by IP address on said contact server to  
1 enable simultaneous execution and display of data  
transmitted by a second IP communications link.

67. A system for synchronizing web page  
5 displays viewed by a customer and company support  
personnel at a plurality of locations over a TCP/IP  
communications link, wherein said customer and said  
support personnel have push/pull http access to a  
10 company http web server said system comprising:

(a) a web server for establishing a  
http communications link with a customer  
15 having a known IP address, which link  
receives a request from a customer for an  
additional communication with company  
support personnel;

(b) a contact server for matching  
20 said customer to said company support  
personnel and then registering the company  
support personnel with the customers IP  
25 address to establish a synchronous data  
link between said web server and said  
contact server;

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1 (c) means for replicating connections  
by IP address on said contact server to  
enable simultaneous displays of any  
requested html data page or URL at each  
5 location.

68. A system for synchronizing web page  
displays viewed by a customer and company support  
personnel at a plurality of locations over a TCP/IP  
10 communications link as claimed in claim 67, wherein  
said means for replicating connections by IP address  
provides simultaneous execution of any local Java  
applets associated with said html data page.  
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69. A system for synchronizing web page  
displays viewed by a customer and company support  
personnel at a plurality of locations over a TCP/IP  
20 communications link as claimed in claim 67, wherein  
said system further synchronizes web page displays and  
a second form of TCP/IP communications between a  
customer and a call center agent over a TCP/IP  
25 communications link.

70. A system for synchronizing web page  
displays viewed by a customer and company support  
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1 personnel at a plurality of locations over a TCP/IP  
communications link as claimed in claim 68, wherein  
said java applet triggers a call back request for a  
call center agent over a telephony communications  
5 link.

71. A system for synchronizing web page  
displays viewed by a customer and company support  
personnel at a plurality of locations over a TCP/IP  
10 communications link as claimed in claim 68, wherein  
said contact server reserves a call center agent if an  
agent is not then available.

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